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10/729,091	12/05/2003	Sudeep Gupta	139170	8830

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PLANO, TX 75075

EXAMINER

HOANG, DANIEL L

ART UNIT	PAPER NUMBER
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2136

MAIL DATE	DELIVERY MODE
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10/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/729,091

Applicant(s)

GUPTA ET AL.

Examiner

Daniel L. Hoang

Art Unit

2136

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 7 and 9-20 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

CLAIMS PRESENTED

Claims 1-20 are presented.

RESPONSE TO ARGUMENTS

Applicant's arguments as per the previous action's 112 rejections in regards to claims 3-5, 8, and 10 have been considered and are successful in overcoming said rejections. The previous action's 112 rejections as per the above claims have been withdrawn.

Applicant's arguments filed 7/24/07 as per the 103 rejections of the previous action have been fully considered but they are not persuasive.

Applicant argues that the combined references do not teach encrypting of a portion of a signaling message. Examiner respectfully disagrees. The Blanchard reference was relied upon to teach encryption of signaling messages. Blanchard was not relied upon to teach encryption of portions of signaling messages. Kollmyer was relied upon to teach encryption of portions of a message. Kollmyer was not relied upon to teach encryption of signaling messages. Examiner believes the combination of Blanchard's teaching of encrypting signaling messages combined with Kollmyer's teaching of encrypting portions of a message together teach what is currently claimed by applicant.

CLAIM REJECTIONS

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6-7, 9-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (US Patent No. 5,974,052), in view of Blanchard (US Patent No. 6,081,600), and further in view of Kollmyer (US Patent No. 7,165,175).

As per claim 1, 16:

In a signaling network in which signaling messages are communicated between signaling points of the signaling network, an improvement of apparatus for selectably encoding at least portions of a signaling message communicated by way of a first selected signal point to at least a second selected signal point, said apparatus comprising:

an encryption selector operable responsive to delivery of the signaling message at the first selected signal point, said encryption selector for selecting which, if any, portion of the signaling message to encrypt; and

an encryptor adapted to receive indications of the signaling message and to receive indications of selection made by said encryption selector, said encryptor selectably for encrypting the portion of the signaling message selected by said encryption selector to be encrypted, the signaling message thereafter to be forwarded on to the second selected signaling point.

Johnson teaches:

A signaling network in which signaling messages are communicated between signaling points of the signaling network (see fig. 1). Johnson's invention does not explicitly teach that the signaling messages can be separated into portions. Johnson also does not teach explicitly teach how the portions may be encrypted.

Blanchard teaches:

The communication of messages in which he explains are carried in fundamental data packets.

Blanchard further teaches that said data packets contain a message payload portion. The payload contains message content which further comprises signaling data and traffic data (see col. 1, paragraph

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3). It would have been obvious at the time of the invention to one of ordinary skill in the art to which the subject matter pertains to combine the teachings of the Johnson reference and the teachings of the Blanchard reference in order to separate signaling data so that only essential signaling units from a signaling data stream need to be transporting across the network as taught by Johnson. Although both the Johnson and the Blanchard invention both cite encryption/decryption capabilities, they do not explicitly teach encryption selectors or encryptors adapted to receive indications of signaling messages and selectably encrypting portions of the signaling message.

Kollmyer teaches:

A system that is operable to parse and selectively encrypt and decrypt encrypted data (see col. 5, paragraph 2). It would have been obvious at the time of the invention to one of ordinary skill in the art to which the subject matter pertains to combine the teachings taught above by Johnson and Blanchard with the teachings taught by Kollmyer in order to discriminately encrypt data so that any data that does not need to be encrypted isn't which leads to less computational load on the system as a whole.

As per claim 2, 17:

The apparatus of claim 1 wherein the signaling network comprises an SS7 signaling network, wherein the first selected signal point comprises a first signaling transfer point and wherein said encryption selector and said encryptor are embodied at the first signaling transfer point.

[see Johnson, fig. 1]

As per claim 3:

The apparatus of claim 1 further comprising an encryption selection database accessible by said encryption selector, said encryption selection database maintaining an index of which portion, if any, of the signaling message is to be encrypted, and wherein said encryption selector accesses the index maintained at said encryption selection database pursuant to the selection of which, if any, portion of the signaling message to encrypt.

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Kollmyer teaches data traffic traversing the network may or may not be encrypted depending on the destination of the traffic and whether or not it is in a safe zone by virtue of not being exposed to the outside network. Therefore data traveling to certain destination addresses that reside outside of the internal network may need to be encrypted in order to be made secure (see col. 6, paragraph 2). It would be obvious to keep track of internal and external destinations so that the system can be aware of when encryption may be necessary. It would be obvious to one of ordinary skill in the art to which the subject matter pertains at the time of the invention to keep track of such information in a database.

As per claim 6:

The apparatus of claim 1 wherein the signaling message comprises a header part and a payload part and wherein the portion, if any, of the signaling message selected by said encryption selector to be encrypted comprises a selected portion of the payload part.

[see Kollmyer, col. 6, paragraph 5]

As per claim 7:

The apparatus of claim 6 wherein the signaling network comprises an SS7 signaling network, wherein the signaling message comprises a message signaling unit, and the payload part of the signaling message comprises a portion of the message signaling unit.

[see Johnson, col. 6, paragraph 3]

As per claim 9, 20:

The apparatus of claim 1 wherein said encryptor encrypts the portion of the signaling message pursuant to a public-key encryption scheme.

As per applicant's discloser, existing schemes and encryption techniques are generally well known. It would have been obvious to one of ordinary skill in the art to which the subject matter pertains to encrypt using a public-key encryption scheme.

As per claim 10:

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The apparatus of claim 9 wherein the second selected switch node to which the signaling message is to be forwarded is identified by an identifier and wherein the public-key encryption scheme used by said encryptor encrypts the portion, if any, of the signaling message using a public encryption key associated with the identifier that identifies the second selected signal point.

[see rejection of claim 3 wherein the identifier would be the destination address]

As per claim 11:

The apparatus of claim 10 wherein said apparatus further comprises an encryption key database accessible by said encryptor, said encryption key database maintaining an index that indexes together the public encryption key and the identifier associated therewith.

[see Kollmyer, col. 7, paragraph 7]

As per claim 12:

The apparatus of claim 11 wherein said encryptor accesses said encryption key database pursuant to encryption of the portion of the signaling message selected by said encryption selector to access the encryption key associated with the second selected signal point.

[see Kollmyer, col. 7, paragraph 7]

As per claim 13, 18:

In the signaling network of claim 1 further including apparatus for selectably decoding the signaling message, said apparatus comprising:

a detector adapted to receive indications of the signaling message, said detector for detecting which, if any, part of the signaling message is encrypted; and a de-encryptor adapted to receive indications of detections made by said detector and to receive indications of the signaling message sent to the second selected signal point, said de-encryptor selectably for de-encrypting the encrypted portion, if any, of the signaling message.

[see Blanchard, fig. 4]

As per claim 14, 19:

The apparatus of claim 13 wherein the signaling message is delivered to said detector and to said de-encryptor by way of an untrusted communication path.

It is clear that if the message is encrypted, then the communication path is insecure or untrusted.

As per claim 15:

The apparatus of claim 13 wherein de-encryption performed by said de-encryptor utilizes an encryption key to de-encrypt the encrypted portion, if any, of the signaling message.

[see Blanchard, fig. 4]

Allowable Subject Matter

1. Claims 4, 5, and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

CONCLUSION

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

POINTS OF CONTACT

- * Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulaney Street
Alexandria, VA 22314


- * Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel L. Hoang whose telephone number is 571-270-1019. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser Moazzami can be reached on 571-272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Daniel L. Hoang
9/30/07

NASSER MOAZZAMI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100


10/1/07